

REMARKS

Claims 1 and 3-22 are pending in the application. Claims 3-5 and 7-22 are withdrawn from consideration. Claims 1 and 6 are rejected.

Claim Rejections - 35 U.S.C. § 112, second paragraph

Claims 1 and 6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention.

The Examiner asserts that it is unclear exactly where the “inwardly bent” feature is located on the SPM cantilever structure. Specifically, the Examiner asserts that the claim language suggests that the bend is on the two sides of the “terminal end portion”, corresponding to portion 3 of Figure 2.

Applicants herein amend claim 1 to clarify the invention. Thereafter, Applicants explain the terminology used in the invention, and submit that the limitations do not require further clarification.

Applicants note that the expression “inwardly bent” of claim 1 refers to a geometrical form of outside edge on the two sides of the entire probe portion. Particularly, in the attached hand-notated reference Figure 3A, it refers to the condition where a portion unnecessary for the probe portion is cut off, as indicated by hatching X at the inside of the two sides indicated by imaginary (dotted) lines that connect the outside ends of the boundary portion 4 between the lever portion 1 and probe portion 2 to the tip of terminal end portion 3 of the probe portion 2 so

that the outside edge portions on the two sides indicated by the imaginary lines are inwardly bent toward each other as indicated by the solid lines.

In the present invention, the unnecessary portion indicated by hatching X in the reference Figure 3A is eliminated as described to form the outside edge portions on the two sides of the probe portion into the bends that are bent inwardly toward each other. As described in the specification, this provides the following advantages:

- (1) reducing weight of the probe portion to prevent a drop in resonance frequency; and
- (2) making possible measurements even in a narrow space by improving an aspect ratio of the terminal end portion of the probe portion.

The limitation “two sides of said probe portion containing said terminal end portion are inwardly bent” of claim 1 is disclosed in the specification as “two sides 2a, 2b of the probe 2 that contain the terminal end portion 3 are bent toward the inner side” in page 13, lines 2 to 3. The same expression is used in both the claim and the specification.

Here, the first fact that the terminal end portion 3 of the probe portion is a part of the probe portion 2 is obvious from “the probe portion has an additionally sharpened terminal end portion” and “two sides of said probe portion containing said terminal end portion” of claim 1, and also from the corresponding disclosures in the specification “terminal end portion 3 of the probe portion 2” (page 12, lines 21 to 22) and “two sides 2a, 2b of the probe portion 2 that contain the terminal end portion 3” (page 13, lines 3 to 4). In other words, the terminal end portion 3 refers to the additionally sharpened portion having high aspect ratio of the probe portion 2.

Accordingly, the two sides 2a, 2b mean the outside edge portion along the entire probe portion extended from the outside end of the boundary portion 4 between the lever portion 1 and the probe portion 2 to the tip of the terminal end portion 3. The phrase “inwardly bent” therefore expresses a geometrical form where the above described two sides (outside edge portion) extended over the entire probe portion are bent inwardly toward each other.

As the above, “two sides of probe portion” refers to the two sides of the entire probe portion containing the terminal end portion 3, and “inwardly bent” refers to the manner where these two sides are bent inwardly toward each other. Accordingly, “inwardly bent” of the two sides as described above does not refer to the manner at the boundary between the lever portion and the probe portion nor mean “the tapering of the width of the sides of probe portion from a maximum width equal to that of the lever portion at the interface between the lever portion and the probe portion to a minimum width at the interface between the probe portion and the terminal end portion.

Accordingly, the expression “inwardly bent” is not connected with the manner at the boundary portion 4 between the lever portion but concerns a portion which is not related at all to the relation between these.

In light of the above description, Applicants submit that it is not necessary to define it in the manner pointed out by the Examiner as “Both the two sides of the probe portion and two sides of lever portion would be necessary to define the angle therebetween”.

Application No. 10/694,358
Group Art Unit: 2856

Amendment under 37 C.F.R. § 1.111
Attorney Docket No. CaseNumber 032047

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Enclosure: Hand-notated reference Figure 3A